

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A measuring device comprising:
having a Hall sensor for displacement measurements[[,]]; and
a magnetic tube,

wherein the Hall sensor is disposed centrally and in an axially movable manner in ~~[[a]]~~ said magnetic tube, each a first half of said magnetic tube being cross-magnetized with opposite polarity in a first direction such that said first half includes a first magnetic north pole diametrically opposed to a first magnetic south pole, and a second half of said magnetic tube being cross-magnetized in a second direction opposite said first direction such that said second half includes a second magnetic north pole diametrically opposed to a second magnetic south pole; and

wherein the first magnetic north poles on said first half of said tube is diametrically opposed to said second magnetic north pole on said second half of said tube, and said first magnetic south pole on said first half of said tube is diametrically opposed to said second magnetic south pole on said second half of said tube.

2. (Previously Presented) The measuring device according to Claim 1, wherein the Hall sensor is held in a support in an axially displaceable manner, said support preventing a rotational movement of the Hall sensor relative to the magnetic tube.

3. (Cancelled)

4. (Cancelled)

5. (New) A method for fabricating a measurement device, comprising:

providing a tube formed of a magnetizable material;

through-magnetizing a first half of said tube in a first direction such that said first half of said tube includes a first north pole diametrically opposed to a first south pole;

through-magnetizing a second half of said tube in a second direction that is opposite said first direction such that said second half of said tube includes a second north pole diametrically opposed to a second south pole; and

centrally disposing a Hall sensor in said tube such that said sensor is axially movable through said tube,

wherein said first north pole is diametrically opposed to said second north pole, and said first south pole is diametrically opposed to said second south pole.